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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 09/777,002

Filing Date: February 05, 2001

Appellant(s): MOULTON ET AL.

Kent A. Lembke (44,866)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 2, 2005 appealing from the Office action mailed April 21, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: 1. Claims 1-7 and 13-30 stand

rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,987,506 ("Carter").

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,987,506	CARTER et al.	11-1999
5,794,254	MCCLAIN	8-1998

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-7, 13-30, are rejected under 35 U.S.C. 103(a) as being unpatentable over Carter et al. (hereinafter Carter), U.S. patent 5,987,506.

In considering claim 1, Carter discloses a data storage system comprising: a plurality of storage nodes, each node existing at a physical location and having one or more associated contexts, (col. 6, lines 7-12); interface mechanisms coupled to each storage node for communicating storage access requests with the storage node, and data storage management processes that select one or more of the storage nodes to

serve a data storage request based at least in part upon the particular contexts associated with each of the storage nodes, (col. 7, lines 43-49).

Although the disclosed system of Carter shows substantial features of the claimed invention it fails to expressly disclose: The context including political, economic, geographic, or topological context.

Nevertheless, having the context include political, economic, geographic, or topological context is a field of use limitation, and not patentable distinction.

Thus, it would have been obvious to one of ordinary skill in the art associated with a political field to modify the teachings of Carter to show the context include political context. Similarly, it would have been obvious to one of ordinary skill in the art associated with economic, geographic, or topological fields, to modify the teachings of Carter to show the context including economic, geographic, or topological contexts. This would have shown how the teachings of Carter could be used in the respective fields.

In considering claim 2, the disclosed system of Carter further teaches the data storage management processes comprising computer-implemented processes executing in at least one of the storage nodes. See col. 6, lines 52-58.

In considering claim 3, the disclosed system of Carter teaches the data storage management processes comprising computer-implemented processes executing in all of the storage nodes. See col. 6, lines 52-58.

In considering claim 4, it is implicit in the system taught by Carter that the data storage requests are associated with a set of desired criteria. See col. 6, lines 7-14.

In considering claim 5, it is implicit in the system taught by Carter that the data storage requests are associated with a set of desired criteria and the data storage management processes comprise processes for matching the desired criteria to the contexts of the storage nodes. See col. 6, lines 7-14.

In considering claim 6, the disclosed system of Carter provides a means for the data storage management processes to present a unitary logical volume of data storage to external devices generating the storage access requests to the selected one or more storage nodes. See col. 7, lines 61-64.

In considering claim 7, the disclosed system of Carter further provides a means for selecting one or more storage nodes such that the contexts associated with the unitary logical volume satisfies the desired criteria associated with the one or more storage nodes. See col. 7, lines 64-67.

In considering claim 13, the system disclosed by Carter further comprises authentication mechanisms coupled to the interface mechanisms for authenticating storage nodes before communicating storage requests. See col. 41, lines 1-6.

In considering claim 14, Carter discloses a method of managing distributed data storage comprising the acts of: providing a plurality of distributed storage nodes, (col. 6, lines 37-43); receiving a data storage task in one of the storage nodes, (col. 6, lines 10-12); determining desired criteria associated with the data storage task, selecting one or more of the plurality of storage nodes having an associated context satisfying the desired criteria, and executing the storage task in the selected storage node, (col. 6, lines 12-17).

Although the disclosed system of Carter shows substantial features of the claimed invention it fails to expressly disclose: The context including political, economic, geographic, or topological context.

Nevertheless, having the context include political, economic, geographic, or topological context is a field of use limitation, and not patentable distinction.

Thus, it would have been obvious to one of ordinary skill in the art associated with a political field to modify the teachings of Carter to show the context include political context. Similarly, it would have been obvious to one of ordinary skill in the art associated with economic, geographic, or topological fields, to modify the teachings of Carter to show the context including economic, geographic, or topological contexts. This would have shown how the teachings of Carter could be used in the respective fields.

In considering claim 15, the disclosed method of Carter further teaches at least two storage nodes collectively satisfying desired criteria. See col. 7, lines 8-38.

In considering claim 16, the disclosed method of Carter further teaches at least two storage nodes located in different geographical locations. See col. 3, lines 1-5.

In considering claim 17, the disclosed method of Carter provides a means for the selected nodes to comprise at least two storage nodes in different areas of a single data center. See col. 3, lines 1-5.

In considering claim 18, the disclosed method of Carter provides a means for the selected nodes to comprise at least two storage nodes in different areas of a single data center, and connected via different network backbones. See col. 3, lines 1-5.

In considering claim 19, the disclosed method of Carter provides a means for the selected nodes to comprise at least two storage nodes in different data centers. See col. 3, lines 1-5.

In considering claim 20, the disclosed method of Carter provides a means for the selected nodes to comprise at least two storage nodes in different cities. See col. 3, lines 1-5.

In considering claim 21, the disclosed method of Carter provides a means for the selected nodes to comprise at least two storage nodes in different political jurisdictions. See col. 3, lines 1-5.

In considering claim 22, the disclosed method of Carter provides a means for the selection to be based upon socio-economic attributes of the physical location of the data storage node. See col. 6, lines 12-14.

In considering claim 23, it is implicit in the method disclosed by Carter that the step of selecting comprises matching the desired criteria to a context associated with a storage node. See col. 6, lines 12-17.

In considering claim 24, the disclosed method of Carter further teaches storing data according to a distributed parity scheme analogous to parity distribution found in RAID subsystems. See col. 23, lines 12-27.

In considering claim 25, it is implicit that the method of Carter provides a means for the parity paradigm to comprise an N-dimensional parity mechanism where "N" is greater than three. See Carter, col. 8, lines 39-50.

In considering claim 26, the disclosed method of Carter provides a means for storing data in a manner such that the data stored in any one storage node cannot be

used in any meaningful fashion without the availability of some or all of the data stored in other storage nodes. See Carter, col. 7, lines 8-38.

In considering claim 27, Carter discloses a data storage service comprising: receiving data storage requests and allocating capacity within network-accessible storage devices to handle the received request, (col. 12, lines 40-43); maintaining a state information data structure including state information describing the contexts of the network-accessible storage devices, (col. 13, lines 19-58).

Although the disclosed system of Carter shows substantial features of the claimed invention it fails to expressly disclose: The context including political, economic, geographic, or topological context.

Nevertheless, having the context include political, economic, geographic, or topological context is a field of use limitation, and not patentable distinction.

Thus, it would have been obvious to one of ordinary skill in the art associated with a political field to modify the teachings of Carter to show the context include political context. Similarly, it would have been obvious to one of ordinary skill in the art associated with economic, geographic, or topological fields, to modify the teachings of Carter to show the context including economic, geographic, or topological contexts. This would have shown how the teachings of Carter could be used in the respective fields.

In considering claim 28, the disclosed service taught by Carter further comprises detecting a change in the state information associated with at least one network-accessible storage device, and updating the state information associated with the at least one network-accessible storage device to include the change in state information. See col. 13, lines 36-58.

In considering claim 29, the disclosed service taught by Carter further comprises dynamically re-allocating capacity within the network-accessible storage devices in response to detecting a change in their associated contexts. See col. 12, lines 22-28.

In considering claim 30, the disclosed service taught by Carter teaches dynamic re-allocation in the absence of externally generated data storage access requests. See col. 12, lines 22-28.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carter in view of McClain, U.S. patent 5,794,254 (supplied by applicant).

In considering claim 12, the disclosed method of Carter further teaches: security mechanisms when communicating, (col. 4, lines 38-50).

Although the disclosed system of Carter shows substantial features of the claimed invention, it fails to expressly disclose: encrypting storage messages before communicating.

Nevertheless, encrypting messages before communicating was well known in the art at the time of the present invention. This is exemplified in a similar field of endeavor where McClain discloses a method and system for backing up computer files at a remote site comprising: encrypting a storage message before communicating, (col. 6, lines 48-53).

Given the teachings of McClain it would have been apparent to one of ordinary skill to modify the teachings of Carter to show encrypting storage messages before communicating. This would have provided a secure and safe means for storing data over a network, while preventing the data from being read by unauthorized individuals.

(10) Response to Argument

With regards to claims 1-7, and 13-30, more specifically with regards to claim 1, Appellant's first argue on pages 5-8, section A, that Carter fails to show or suggest a storage system with "a plurality of storage nodes...having one or more associated contexts including a political context, an economical context, a geographical context or a network topological context".

In response, in previous actions Examiner has reiterated the need for Appellant to define the claimed invention more clearly and distinctly. Appellant's failure to significantly narrow definition/scope of the claims implies the Appellant intends broad interpretation be given to the claims. Accordingly, Examiner has given broadest reasonable interpretation to Appellant's claimed invention. In doing so, Examiner has interpreted "context" as "data" stored within storage nodes. In previous actions,

Examiner acknowledges Carter fails to expressly disclose such context/data including political, economic, geographic, or topological context. Nevertheless, Examiner maintains it was well known in the art at the time of the claimed invention for storage nodes to contain context including political, economical, geographical, and topological context. Furthermore, Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, knowledge generally available to one of ordinary skill in the art suggests if a person associated with a political field of endeavor were to use the system taught by Carter, context stored in the storage nodes would include political context, (Carter, col. 6, lines 7-12). Similarly, if persons associated with economical, geographical, and topological fields of endeavor were to use the system taught by Carter, context stored in the storage nodes would include economical, geographical, and topological context, (Carter, col. 6, lines 7-12).

Appellant's further argue that Carter fails to show or make obvious a storage system with "data storage management processes that select one or more of the storage nodes to serve a data storage request based at least in part upon the particular contexts associated with each of the storage nodes".

In response, as previously mentioned, in giving the broadest reasonable interpretation to the claims, Examiner has interpreted "context" as "data" stored within

storage nodes. Also, Carter teaches a system that utilizes conventional data storage management processes, (Carter, col. 7, lines 42-49). Thus, it is clear Carter teaches data storage management processes that select one or more of the storage nodes to serve a data storage request based at least in part upon the particular contexts associated with each of the storage nodes since conventional data storage management processes need to determine where, or to which node or nodes, the requested data should be stored, (i.e. conventional data storage management processes need to first know where data is stored before the storage management processes select the location to store updates to the data), (Carter, col. 6, lines 3-21, and col. 7, lines 42-60).

Appellants still further argue that Carter fails to teach or suggest “contexts” that are associated with each storage node.

In response, as previously mentioned, in giving the broadest reasonable interpretation to the claims, Examiner has interpreted “context” as “data” stored within storage nodes. It is noted from the appeal brief that features upon which Appellant relies to define “context” (i.e., “attributes or state information for a device that can be used in selecting the storage nodes to satisfy a storage request...” and “externalities that define context in which the storage node exist”) are not clearly recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Also, it appears Appellant’s have misinterpreted the teachings of the prior art. In cited passages, Carter teaches a global

identifier used to access a storage node, or a plurality of network storage nodes, to obtain desired data, (col. 6, lines 3-21). As previously mentioned, and contrary to Appellants understanding of the teachings of Carter, it is the desired data within the nodes in the teachings of Carter that reads over Appellants claimed “context”, not the global identifier. In an obvious modification of the teachings of Carter, Examiner submits the global identifier would instead be used by persons associated with political, economical, geographical, and topological fields of endeavor to obtain/store economical, geographical, and topological context in the plurality of network storage nodes, (Carter, col. 6, lines 3-21 and col. 7, lines 42-60).

Appellants still further argue that claim 1 is written such that the contexts are “associated” with “each node” and not with the data stored on such nodes.

In response, Examiner submits Appellant’s failure to significantly narrow definition/scope of the claims allows for a person of ordinary skill in the art to interpret the claim as having the context stored on the nodes. Surely, data stored at a node is inherently “associated” with that node.

Appellants still further argue that Examiner has failed to clarify the obviousness rejection reciting, “having the context include political, economic, geographic, or topological context is a field of use limitation, and not patentable distinction.”

In response, in previous actions, Examiner has directed Appellant to 35 USC 103 (a), which states: a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject

matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. As previously indicated, Examiner maintains that the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains since knowledge generally available to one of ordinary skill in the art suggests if a person associated with either political, economical, geographical, or topological fields of endeavor were to use the teachings of Carter, context stored in the storage nodes would include political, economical, geographical, or topological context.

With regards to claims 1-7, and 13-30, more specifically with regards to claim 5, Appellants argue on pages 8-9, section A, there is no discussion in the cited passage of Carter of matching criteria in a storage request with context associated with the node to select one or more nodes for use in serving the request.

In response, Examiner submits Carter teaches matching criteria in a storage request with context associated with the node to select one or more nodes for use in serving the request for reasons previously indicated,, (Carter, col. 6, lines 3-21, and col. 7, lines 42-60). Similar to conventional storage processes, criteria in a storage request are needed to determine where, or to which node or nodes, the requested data should be stored.

With regards to claims 1-7, and 13-30, more specifically with regards to claims 6 and 7, Appellants argue on page 9, section A, there is no teaching in Carter of processes to present a unitary logical volume and that such a volume "satisfies the desired criteria".

In response, Examiner maintains Carter teaches processes to present a unitary logical volume and that such a volume "satisfies the desired criteria", for reasons previously indicated.

With regards to claims 1-7, and 13-30, more specifically with regards to claim 14, Appellants argue on page 9, section A, Carter fails to teach selecting nodes in the structure to satisfy a storage task and particularly, selecting such nodes based on criteria in the storage task and contexts associated with the nodes that meet these criteria.

In response, Examiner maintains Carter teaches selecting nodes in the structure to satisfy a storage task and particularly, selecting such nodes based on criteria in the storage task and contexts associated with the nodes that meet these criteria, for reasons previously indicated.

With regards to claims 1-7, and 13-30, more specifically with regards to claim 15, Appellants argue on pages 9-10, section A, that there is no discussion that the system

of Carter looks at the contexts of two devices to find a combination that jointly satisfies the criteria of a storage task.

In response, Examiner maintains Carter teaches looking at the contexts of two devices to find a combination that jointly satisfies the criteria of a storage task, for reasons previously indicated.

With regards to claims 1-7, and 13-30, more specifically with regards to claim 22, Appellants argue on page 10, section A, that there is no teachings in Carter for the selection of the nodes to be based on the "socio-economic attributes of the physical location of the data storage node".

In response, Examiner maintains Carter teaches the selection of the nodes to be based on the "socio-economic attributes of the physical location of the data storage node", for reasons previously indicated. Furthermore, Examiner has interpreted the selection of the nodes based on the "global identifier of the data storage node" to be the "socio-economic attributes of the physical location of the data storage node", (Carter, col. 6, lines 3-21).

With regards to claims 1-7, and 13-30, more specifically with regards to claim 27, Appellants argue on pages 10-11, section A, that the teaching of Carter does not show maintaining state information for a number of storage devices to describe each of their contexts (including a political context, an economic context, a geographic context, or a network topological context).

In response, Examiner maintains Carter teaches maintaining state information for a number of storage devices to describe each of their contexts (including a political context, an economic context, a geographic context, or a network topological context), for reasons previously indicated. Furthermore, Appellant's acknowledge in the appeal brief that Carter teaches state information corresponding to data stored at the storage devices, (Appeal Brief pages 10-11).

With regards to claim 12, Appellants argue on page 11, section B, that claim 12 is believed allowable as depending from an allowable base claim.

In response, Examiner maintains claim 12 is not allowable for reasons previously indicated.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

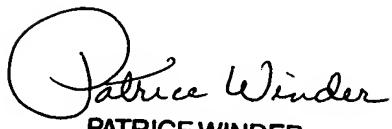
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Hassan Phillips

Conferees:

Patrice Winder



Patrice Winder
PATRICE WINDER
PRIMARY EXAMINER

Zarni Maung



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